

9/5/1 (Item 1 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2002 Institution of Electrical Engineers. All rts. reserv.

6402360 INSPEC Abstract Number: A1999-24-8770J-023, B1999-12-7520E-053

Title: Shielding of flexible microelectrode interconnects for suppression of artifacts in neural prostheses

Author(s): Stieglitz, T.; Schuettler, M.; Keller, R.; Meyer, J.-U.

Author Affiliation: Dept. of Sensor Syst./Microsyst., Fraunhofer Inst. for Biomed. Eng., St. Ingbert, Germany

Conference Title: Proceedings of the 20th Annual International Conference of the IEEE Engineering in Medicine and Biology Society. Vol.20 Biomedical Engineering Towards the Year 2000 and Beyond (Cat. No.98CH36286) Part vol.5 p.2574-7 vol.5

Editor(s): Chang, H.K.; Zhang, Y.T.

Publisher: IEEE, Piscataway, NJ, USA

Publication Date: 1998 Country of Publication: USA 6 vol. xviii+xix+3384 pp.

ISBN: 0 7803 5164 9 Material Identity Number: XX-1999-00307

U.S. Copyright Clearance Center Code: 0 7803 5164 9/98/\$10.00

Conference Title: Proceedings of the 20th Annual International Conference of the IEEE Engineering in Medicine and Biology Society. Vol.20 Biomedical Engineering Towards the Year 2000 and Beyond

Conference Sponsor: Biomed. Div. Hong Kong Inst. Eng.; Chinese Biomed. Eng. Soc

Conference Date: 29 Oct.-1 Nov. 1998 Conference Location: Hong Kong, China

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P); Experimental (X)

Abstract: An approach for the suppression of artifacts in interconnects of **neural prostheses** is described. Micromachining technologies have been applied to develop **flexible** multichannel electrodes with integrated interconnects. Often, electrodes were **implanted** on **nerves** with large muscles nearby. Artifacts from muscle activity could couple into the interconnect lines and disturb the small signals recorded from nerves. Therefore, we present a new generation of flexible electrodes with an electrical shielding of the interconnects. Simulations with a discrete cable model of the microdevices were performed. Additionally, a setup for in vitro measurements of interconnect properties in a physiologic environment was built up. Measurements of crosstalk between the lines and coupling of external signals were performed and compared with the simulations. Shielded interconnects as well as unshielded ones showed only small crosstalk between the lines in a physiologic saline solution. The coupling of an external potential ("artifact") into the interconnects could be reduced by 50% when the electrical shield was put to ground potential.

(4 Refs)

Subfile: A B

Descriptors: biomedical electrodes; crosstalk; interconnections; metallisation; microelectrodes; micromachining; neuromuscular stimulation; prosthetics; shielding

Identifiers: neural prostheses; artifacts suppression; flexible microelectrode interconnects; electrical shielding; flexible multichannel electrodes; micromachining; muscle activity artifacts; discrete cable model ; in vitro measurements; crosstalk; external potential; three metallisation layer process; RIE; capacitive coupling

Class Codes: A8770J (Prosthetics and other practical applications); A8730C (Electrical activity in neurophysiological processes); A8730E (External and internal data communications, nerve conduction and synaptic transmission); B7520E (Prosthetics and orthotics); B2575F (Fabrication of micromechanical devices); B5230 (Electromagnetic compatibility and interference)

Copyright 1999, IEE

9/5/2 (Item 2 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2002 Institution of Electrical Engineers. All rts. reserv.

5985279 INSPEC Abstract Number: B9809-2575-060

Title: Microflex: a new technique for hybrid integration for microsystems

Author(s): Beutel, H.; Stieglitz, T.; Meyer, J.U.

Author Affiliation: Dept. of Sensor Syst., Fraunhofer Inst. for Biomed. Eng., Stankt Ingbert, Germany

Conference Title: Proceedings MEMS 98. IEEE. Eleventh Annual International Workshop on Micro Electro Mechanical Systems. An Investigation of Micro Structures, Sensors, Actuators, Machines and Systems (Cat. No.98CH36176) p.306-11

Publisher: IEEE, New York, NY, USA

Publication Date: 1998 Country of Publication: USA xxx+666 pp.

ISBN: 0 7803 4412 X Material Identity Number: XX98-00687

U.S. Copyright Clearance Center Code: 0 7803 4412 X/98/\$10.00

Conference Title: Proceedings IEEE Eleventh Annual International Workshop on Micro Electro Mechanical Systems An Investigation of Micro Structures, Sensors, Actuators, Machines and Systems

Conference Sponsor: IEEE Robotics & Autom. Soc.; ASME Dynamic Syst. & Control Div.; Ministr. Econ. Affairs of Baden-Wuttemberg

Conference Date: 25-29 Jan. 1998 Conference Location: Heidelberg, Germany

Language: English Document Type: Conference Paper (PA)

Treatment: Applications (A); Practical (P); Experimental (X)

Abstract: This paper describes a new interconnection wire method which allows versatile multiple strand connections between microsensors: sensor arrays and integrated circuits (IC). The interconnection method is termed Micro Flex Interconnects (MFI). One example for this technology is the connection of **implantable**, highly **flexible neural** micro devices to electronics for interfacing to the external world. The interconnection technique is based on a novel multilayer process using polyimide (Du Pont PI 2611). The thickness of the polyimide structure ranges from 5 to 15 μm including the insulation layers. Several metallization layers can be embedded in the material. This approach exhibits same advantages. The involved material is non-toxic and the ICs do not need any additional bond pad metallization. The MFI technique has been proven long-term stable. The metallization material can be chosen accordingly for electrodes, conducting lines, and connection pads. An commercial ball wedge bonder is the only equipment needed to perform the MFI method. (15 Refs)

Subfile: B

Descriptors: integrated circuit interconnections; integrated circuit metallisation; integrated circuit testing; mechanical testing; microsensors; polymer films

Identifiers: hybrid integration; microsystems; interconnection wire; multiple strand connections; microsensors; sensor arrays; integrated circuits; Micro Flex Interconnects; neural micro devices; interconnection; multilayer proces; polyimide; Du Pont PI 2611; insulation layers; metallization layers; MFI; metallization material; conducting lines; connection pads; commercial ball wedge bonder; 5 to 15 μm

Class Codes: B2575 (Micromechanical device technology); B2550F (Metallisation and interconnection technology); B7230 (Sensing devices and transducers); B2570 (Semiconductor integrated circuits)

Numerical Indexing: size 5.0E-06 to 1.5E-05 m

Copyright 1998, IEE

9/5/3 (Item 3 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2002 Institution of Electrical Engineers. All rts. reserv.

5203081 INSPEC Abstract Number: A9607-8770J-008, B9604-7520E-010, C9604-3385C-001

Title: Implantable multiprogrammable microstimulator dedicated to bladder control

Author(s): Arabi, K.; Sawan, M.

Author Affiliation: Dept. of Electr. & Comput. Eng., Ecole Polytech. de Montreal, Que., Canada

Journal: Medical & Biological Engineering & Computing vol.34, no.1 p.9-12

Publisher: Peter Peregrinus for Int. Fed. Med. & Biol. Eng,
Publication Date: Jan. 1996 Country of Publication: UK
CODEN: MBECDY ISSN: 0140-0118
SICI: 0140-0118(199601)34:1L:9:IMMD;1-C
Material Identity Number: M218-96002
U.S. Copyright Clearance Center Code: 0140-0118/96/\$10.00
Language: English Document Type: Journal Paper (JP)
Treatment: Practical (P)

Abstract: An implantable multiprogrammable microstimulator that is intended to restore normal bladder functions (retention and incontinence) to spinal cord injured patients is presented. The implantable microstimulator circuitry is externally controlled and is powered by a single encoded radio frequency carrier and has 4 bipolar (8 monopolar) independently controlled channels. It offers a higher degree of reprogrammability and **flexibility** and can be used in any **neuromuscular** applications. The **implant** system is adaptable to the patient's needs and to future developments in stimulation algorithms, without changing the implant. Features of the microstimulator include its capabilities to generate a wide range of waveforms and to combine up to 4 different programmable frequencies in each wave train. By using a forward error detection and correction communication protocol, the reliability of the implant is increased. The chip has been designed for structural testability by means of a scan-based test approach and uses circuit techniques to reduce power consumption and ensure long-term stability. (10 Refs)

Subfile: A B C

Descriptors: biocontrol; prosthetics

Identifiers: implantable multiprogrammable microstimulator; bladder control; urine retention; incontinence; spinal cord injured patients; encoded radio frequency carrier; bipolar independently controlled channels; implant system; stimulation algorithms; programmable frequencies; forward error detection; correction communication protocol; structural testability; scan-based test approach; long-term stability; power consumption reduction circuit techniques

Class Codes: A8770J (Prosthetics and other practical applications); B7520E (Prosthetics and orthotics); C3385C (Prosthetic and orthotic control systems)

Copyright 1996, IEE

9/5/4 (Item 4 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2002 Institution of Electrical Engineers. All rts. reserv.

5124481 INSPEC Abstract Number: A9601-8770J-014, B9601-1210-012

Title: Design optimization of a current source for microstimulator applications

Author(s): St-Amand, R.; Savaria, Y.; Sawan, M.

Author Affiliation: Ecole Polytech. de Montreal, Que., Canada

Conference Title: Proceedings of the 37th Midwest Symposium on Circuits and Systems (Cat. No.94CH35731) Part vol.1 p.129-32 vol.1

Editor(s): Bayoumi, M.A.; Jenkins, W.K.

Publisher: IEEE, New York, NY, USA

Publication Date: 1994 Country of Publication: USA 2 vol. xl+1551 pp.

ISBN: 0 7803 2428 5

U.S. Copyright Clearance Center Code: 0 7803 2428 5/95/\$4.00

Conference Title: Proceedings of 1994 37th Midwest Symposium on Circuits and Systems

Conference Sponsor: IEEE Circuits & Syst. Soc.; IEEE Control Syst. Soc.; IEEE Educ. Soc.; IEEE Ind. Electron. Soc.; IEEE Instrum. & Meas. Soc.; IEEE Power Electron. Soc.; IEEE Signal Process. Soc.; IEEE Syst., Man & Cybern. Soc

Conference Date: 3-5 Aug. 1994 Conference Location: Lafayette, LA, USA

Language: English Document Type: Conference Paper (PA)

Treatment: Applications (A); Practical (P)

Abstract: The main goal of our study is the design of a current source (CS) based on a miniaturized digital-to-analog converter (DAC). The primary application of this device is a wide range of **neuromuscular implantable** microstimulators. Special attention is paid to design a **flexible**,

compact and energy efficient circuit. A new design method is thus proposed. This method was applied to the design of a 5-bit, 3 mA peak current source, whose active circuit area is only 0.01 mm². This current source has been submitted for implementation in the 1.2 μm CMOS technology offered by the Canadian Microelectronics Corporation. (6 Refs)

Subfile: A B

Descriptors: bioelectric phenomena; CMOS integrated circuits; constant current sources; digital-analogue conversion; mixed analogue-digital integrated circuits; muscle; neurophysiology; prosthetic power supplies

Identifiers: design optimization; current source; microstimulator applications; miniaturized DAC; digital-to-analog converter; neuromuscular implantable microstimulators; CMOS technology; biomedical electronics

Class Codes: A8770J (Prosthetics and other practical applications); A8730E (External and internal data communications, nerve conduction and synaptic transmission); B1210 (Power electronics, supply and supervisory circuits); B7520E (Prosthetics and orthotics); B2570D (CMOS integrated circuits); B1280 (Mixed analogue-digital circuits); B1265H (A/D and D/A convertors)

Copyright 1995, IEE

9/5/5 (Item 5 from file: 2)

DIALOG(R) File 2:INSPEC

(c) 2002 Institution of Electrical Engineers. All rts. reserv.

02948559 INSPEC Abstract Number: B87052427

Title: Does your coupling coefficient matter?

Author(s): Ivall, T.

Journal: Electronics & Wireless World vol.93, no.1616 p.577-9

Publication Date: June 1987 Country of Publication: UK

CODEN: EWWOEG ISSN: 0266-3244

Language: English Document Type: Journal Paper (JP)

Treatment: Practical (P)

Abstract: Discusses how a little-known possibly hitherto unknown, fundamental property of inductively coupled oscillating circuits is being investigated by the Medical Research Council. It is being utilized to improve the operational **flexibility** of surgically **implanted nerve stimulators**. At the MRS's **Neurological Prostheses** Unit in South London these microelectronic implanted stimulators are used to activate nerve fibres which, as a result of some disease or injury, are no longer in use. They give back the patient some degree of voluntary control over limbs or organs which have become paralysed. The author presents circuits for making inductively-coupled energy less sensitive to coil separation. (6 Refs)

Subfile: B

Descriptors: biomedical electronics; coils; electromagnetic induction; oscillators; prosthetics

Identifiers: paralysis; inductively coupled oscillating circuits; operational flexibility; surgically implanted nerve stimulators; disease; injury; patient; voluntary control; limbs; organs; inductively-coupled energy

Class Codes: B1230B (Oscillators); B2140 (Inductors and transformers); B5140 (Electromagnetic induction); B7520E (Prosthetics and orthotics)

9/5/6 (Item 1 from file: 5)

DIALOG(R) File 5:Biosis Previews(R)

(c) 2002 BIOSIS. All rts. reserv.

12051828 BIOSIS NO.: 199900332347

Flexible artificial nerve plates.

AUTHOR: Meyer Jorg-Uwe(a); Stieglitz Thomas

AUTHOR ADDRESS: (a)St. Ingbert**West Germany

JOURNAL: Official Gazette of the United States Patent and Trademark Office Patents 1221 (4):pNO PAGINATION 22-JUL-99, 1999

PATENT NUMBER: US 5897583 PATENT ASSIGNEE: Fraunhofer Gesellschaft zur Forderung der Angewandten Forschung e.V. PATENT COUNTRY: USA

ISSN: 0098-1133

RECORD TYPE: Citation

LANGUAGE: English

MAJOR CONCEPTS: Equipment, Apparatus, Devices and Instrumentation;

Neurology (Human Medicine, Medical Sciences)

METHODS & EQUIPMENT: **flexible** artificial **implantable** nerve plate--
medical equipment, nonconductive nerve plate

MISCELLANEOUS TERMS: Patent

9/5/7 (Item 1 from file: 8)

DIALOG(R)File 8:EI Compendex(R)

(c) 2002 Elsevier Eng. Info. Inc. All rts. reserv.

04652187 E.I. No: EIP97033578316

Title: Adhesion of staphylococci to polymers with and without immobilized
heparin in cerebrospinal fluid

Author: Nomura, Sadahiro; Lundberg, Fredrik; Stollenwerk, Maria;
Nakamura, Kazuyuki; Ljungh, Asa

Corporate Source: Lund Univ, Lund, Sweden

Source: Journal of Biomedical Materials Research v 38 n 1 Spring 1997. p
35-42

Publication Year: 1997

CODEN: JBMRBG

Language: English

Document Type: JA; (Journal Article) Treatment: X; (Experimental)

Journal Announcement: 9705W2

Abstract: Infections of cerebrospinal fluid (CSF) shunts constitute a serious clinical problem. The role of adhesion by coagulase negative staphylococci, the most common etiological agent, was examined in vitro to polyvinyl chloride (PVC), silicone, and to PVC and silicone with end-point attached (EPA) heparin. These are **flexible** materials commonly used in **neurosurgical implants**. Bacterial adhesion was quantitated by bioluminescence. The bacterial adhesion to biomaterial surfaces increased with increasing concentrations of bacterial cells. Scatchard plot analysis showed continuous negative (concave) slopes, indicating multiple interactions between biomaterial and bacteria. The thermodynamic studies showed a positive value of the standard entropy change at 37 degree C, which indicates that hydrophobic interactions are important in bacterial adhesion to polymers. Incubation with CSF for 1 h decreased bacterial adhesion in 75% of the samples compared to incubation in buffer. Thus, the contribution of CSF proteins, like fibronectin, for the initial bacterial adhesion might be small. Heparinization of silicone and PVC decreased the numbers of adhered bacteria by 23 to 54% and 0 to 43% compared to unheparinized surfaces. Among putative inhibitors tested, suramin, chondroitin sulfate, and fucoidan inhibited adhesion to 81 plus or minus 19, 78 plus or minus 22, and 64 plus or minus 7%, respectively. These findings indicate that hydrophobic interactions play an important role, and heparinization rendering the biomaterial surface hydrophilic is therefore effective to reduce bacterial adhesion. Heparinized polymers incubated with putative inhibitors may be the optimal way to prevent shunt infections.

(Author abstract) 36 Refs.

Descriptors: *Implants (surgical); Bacteria; Adhesion; Body fluids; Polyvinyl chlorides; Silicones; Polysaccharides; Biomaterials; Thermodynamics; Entropy

Identifiers: Cerebrospinal fluid; Shunt infection; Staphylococci; Etiological agent; Neurosurgical implants; Scatchard plot analysis; Hydrophobic interactions; Incubation; Fibronectin; Putative inhibitors

Classification Codes:

815.1.1 (Organic Polymers)

462.4 (Prosthetics); 801.2 (Biochemistry); 461.2 (Biological Materials); 815.1 (Polymeric Materials); 804.1 (Organic Components); 462.5 (Biomaterials)

462 (Medical Engineering & Equipment); 801 (Chemical Analysis & Physical Chemistry); 461 (Biotechnology); 815 (Plastics & Polymeric Materials); 804 (Chemical Products)

46 (BIOENGINEERING); 80 (CHEMICAL ENGINEERING); 81 (CHEMICAL PROCESS INDUSTRIES)

9/5/8 (Item 1 from file: 35)
DIALOG(R) File 35:Dissertation Abs Online
(c) 2002 ProQuest Info&Learning. All rts. reserv.

01525319 ORDER NO: AADMM-11524

**CONCEPTION D'UNE SOURCE DE COURANT SERVANT D'ETAGE DE SORTIE A UN
STIMULATEUR NEUROMUSCULAIRE (FRENCH TEXT)**

Author: ST-AMAND, ROBERT

Degree: M.SC.A.

Year: 1995

Corporate Source/Institution: ECOLE POLYTECHNIQUE, MONTREAL (CANADA) (1105)

Directeur: MOHAMAD SAWAN

Source: VOLUME 35/01 of MASTERS ABSTRACTS.

PAGE 279. 131 PAGES

Descriptors: ENGINEERING, BIOMEDICAL ; ENGINEERING, SANITARY AND MUNICIPAL

Descriptor Codes: 0541; 0554

ISBN: 0-612-11524-0

The main goal of our study is the design of a current-source based on a miniaturized digital-to-analog converter (DAC). The primary application of this device is a wide range of **neuromuscular implantable** microstimulators.

The circuit has to be highly **flexible** to fit a wide range of biomedical applications, energy efficient because power to the implant is extremely limited and above all, it must be very compact, because we would eventually like to use up to 32 output channels, or even more, on a single VLSI chip microstimulator implant. Moreover, since a DC level at the output is noxious for the body tissues, it is also important for us to minimize its effects.

Our approach to the problem starts by analyzing the current-source biomedical application requirements. They are defined in terms of area, power consumption, output linearity and finally, tolerable DC level. We then propose a current-source design that could possibly reach these requirements, using CMOS technology. A DC level analysis is then performed to identify and neutralize the DC level and charge accumulation that have noxious effects on body tissues. This DC level analysis led us to propose a better transistor configuration for the current-source circuit. (Abstract shortened by UMI.)

9/5/9 (Item 1 from file: 73)
DIALOG(R) File 73:EMBASE
(c) 2002 Elsevier Science B.V. All rts. reserv.

07475592 EMBASE No: 1998410512

In vivo performance of a new biodegradable polyester urethane system used as a nerve guidance channel

Borkenhagen M.; Stoll R.C.; Neuenschwander P.; Suter U.W.; Aebischer P.

P. Aebischer, Division of Surgical Research, Centre Hospitalier Univ.

Vaudois, Lausanne University Medical School, Lausanne Switzerland

AUTHOR EMAIL: paebisch@chuv.hopsvd.ch

Biomaterials (BIOMATERIALS) (United Kingdom) 1998, 19/23 (2155-2165)

CODEN: BIMAD ISSN: 0142-9612

PUBLISHER ITEM IDENTIFIER: S0142961298001227

DOCUMENT TYPE: Journal; Article

LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

NUMBER OF REFERENCES: 19

Biodegradable nerve guidance channels (NGCs) represent a promising alternative to current clinical nerve repair procedures. To be suitable as a NGC material, the polymer system should possess elastomeric properties and degrade at a defined rate without interfering with the regenerating environment. Polymers made of non-crystallizable blocks of poly[glycolide-co-(epsilon-caprolactone)]-diol and crystallizable blocks of poly[(R)-3-hydroxybutyric acid-co-(R)-3-hydroxyvaleric acid]-diol (PHB) can be modulated so as to respond to those criteria. Tubular structures were

fabricated from three different types of materials containing either 41, 17 or 8 wt% PHB. Nerve regeneration through a 10 mm long NGC using a transected sciatic nerve model with an 8 mm gap was studied in rats at 4, 12 and 24 weeks. Out of 26 implanted NGCs, 23 contained regenerated tissue cables centrally located within the channel lumen and composed of numerous myelinated axons and Schwann cells. No significant difference in the degree of regeneration was observed between the various channel types. The inflammatory reaction associated with the polymer degradation had not interfered with the nerve regeneration process. Macrophages and giant cells surrounded polymer material remnants. A weight loss of 33, 74 and 88% for polymers containing 41, 17 and 8 wt% PHB was observed after 24 weeks by nuclear magnetic resonance (NMR) analysis, respectively. In all cases, the polymer fragments had a porous appearance with multiple surface cracks as evidenced by scanning electron microscopical analysis. Guidance channels made of 8 wt% PHB containing polymer displayed the highest degree of degradation at 24 weeks with only small polymer fragments remaining. The present study suggests that this new biodegradable elastomeric polymeric material holds promises for its utilization as nerve guidance channels.

DRUG DESCRIPTORS:

*polyester

urethan; polymer; biomaterial

MEDICAL DESCRIPTORS:

*nerve regeneration

biocompatibility; physical parameters; **elasticity**; degradation; sciatic nerve; **implant**; **nerve fiber**; schwann cell; inflammation--complication--co; macrophage; giant cell; nuclear magnetic resonance; scanning electron microscopy; surface property; nonhuman; male; rat; animal experiment; article; priority journal

CAS REGISTRY NO.: 51-79-6 (urethan)

SECTION HEADINGS:

008 Neurology and Nerosurgery

027 Biophysics, Bioengineering and Medical Instrumentation

9/5/10 (Item 1 from file: 155)

DIALOG(R) File 155:MEDLINE(R)

08608482 95368355 PMID: 7640971

Evaluation of a thin-film peripheral nerve cuff electrode.

Walter J S; McLane J; Cai W; Khan T; Cogan S

Hines VA Hospital, Rehabilitation Research and Development Center, IL 60141, USA.

Journal of spinal cord medicine (UNITED STATES) Jan 1995, 18 (1)

p28-32, ISSN 1079-0268 Journal Code: 9504452

Contract/Grant No.: N43-NS-2-2367; NS; NINDS

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Subfile: INDEX MEDICUS

This is a study of the reaction of large **nerves** to **implantation** using a **flexible**, thin-film cuff electrode. Cuff electrodes were implanted on the sciatic nerve of three cats. An implantation period of six weeks allowed sufficient time for any injury responses in the nerve and connective tissue sheath around the cuff to develop. The electrode came off the nerve in one of the cats. In the remaining two cats, gross observation following explantation of the electrodes revealed encapsulation of the cuffs without swelling of nerve tissue. Histological evaluation did not demonstrate nerve injury. The nerve cuff electrodes, which are comprised of titanium and iridium coatings on a fluorocarbon polymer substrate, appeared unaffected by the implantation, and connective tissue encapsulation did not adhere to either the polymer substrate or metallization. Evaluation of the electrodes using activated iridium oxide charge injection sites in more extended studies is now being undertaken.

Tags: Animal; Male; Support, U.S. Gov't, P.H.S.

Descriptors: *Electric Stimulation Therapy--instrumentation--IS;

*Electrodes, Implanted; *Neuromuscular Junction--physiopathology--PP;

*Peripheral Nerves--physiopathology--PP; Cats; Connective Tissue--pathology
--PA; Equipment Design; Nerve Degeneration--physiology--PH; Neuromuscular
Junction--pathology--PA; Peripheral Nerves--pathology--PA; Polytetrafluoro-
ethylene; Sciatic Nerve--pathology--PA; Sciatic Nerve--physiopathology--PP;
Surface Properties

CAS Registry No.: 9002-84-0 (Polytetrafluoroethylene)

Record Date Created: 19950921

Set	Items	Description
S1	5457824	NEURO? OR NEURA? OR NERVOUS OR NERV?
S2	1333581	PROSTHESIS OR PROSTHESES OR IMPLANT?
S3	1368571	FLEXIBL? OR FLEXIBILIT? OR ELASTIC? OR NONRIGID? OR NON()R-IGID?

S4	5457205	S1 NOT NEUROPROSTHES?
S5	8360	S4(2N)S2 OR NEUROPROSTHES?
S6	121	S5(S)S3
S7	25	S5(10N)S3
S8	15	RD (unique items)
S9	10	S8 NOT (PY>2000 OR PD>20000428)

?show files

File 2:INSPEC 1969-2002/Nov W3
(c) 2002 Institution of Electrical Engineers

File 5:BIOSIS Previews(R) 1969-2002/Nov W2
(c) 2002 BIOSIS

File 6:NTIS 1964-2002/Nov W3
(c) 2002 NTIS, Intl Cpyrght All Rights Res

File 8:Ei Compendex(R) 1970-2002/Nov W2
(c) 2002 Elsevier Eng. Info. Inc.

File 34:SciSearch(R) Cited Ref Sci 1990-2002/Nov W3
(c) 2002 Inst for Sci Info

File 35:Dissertation Abs Online 1861-2002/Oct
(c) 2002 ProQuest Info&Learning

File 65:Inside Conferences 1993-2002/Nov W3
(c) 2002 BLDSC all rts. reserv.

File 73:EMBASE 1974-2002/Nov W2
(c) 2002 Elsevier Science B.V.

File 94:JICST-EPlus 1985-2002/Sep W3
(c)2002 Japan Science and Tech Corp(JST)

File 144:Pascal 1973-2002/Nov W3
(c) 2002 INIST/CNRS

File 155:MEDLINE(R) 1966-2002/Nov W2

File 172:EMBASE Alert 2002/Nov W3
(c) 2002 Elsevier Science B.V.

File 187:F-D-C Reports 1987-2002/Nov W3
(c) 2002 F-D-C Reports Inc.

File 198:Health Devices Alerts(R) 1977-2002/Nov W3
(c) 2002 ECRI-nonprft agncy

File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
(c) 1998 Inst for Sci Info

File 441:ESPICOM Pharm&Med DEVICE NEWS 2002/Nov W2
(c) 2002 ESPICOM Bus.Intell.

File 442:AMA Journals 1982-2002/Dec B2
(c)2002 Amer Med Assn -FARS/DARS apply

File 444:New England Journal of Med. 1985-2002/Nov W3
(c) 2002 Mass. Med. Soc.

File 48:SPORTDiscus 1962-2002/Nov
(c) 2002 Sport Information Resource Centre

File 71:ELSEVIER BIOBASE 1994-2002/Nov W3
(c) 2002 Elsevier Science B.V.

File 91:MANTIS(TM) 1880-2002/Oct
2002 (c) Action Potential

File 162:CAB Health 1983-2002/Oct
(c) 2002 CAB International

File 164:Allied & Complementary Medicine 1984-2002/Nov
(c) 2002 BLHCIS

File 467:ExtraMED(tm) 2000/Dec
(c) 2001 Informania Ltd.